



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,092	02/09/2005	Vesa Ahvenniemi	METSO-32	4003
36528	7590	06/27/2007	EXAMINER	
STIENNON & STIENNON 612 W. MAIN ST., SUITE 201 P.O. BOX 1667 MADISON, WI 53701-1667			HUG, ERIC J	
			ART UNIT	PAPER NUMBER
			1731	
			MAIL DATE	DELIVERY MODE
			06/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,092	Applicant(s) AHVENNIEMI ET AL.	
	Examiner Eric Hug	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 16, in the step of drawing air from the interior volume of the reeling drum to create suction, the claimed "wherein a boundary layer of air, produced by the rotating reeling drum and motion of the tail threading strip, is substantially removed by a suction effect provided through the suction zone and which suction effect extends beyond the boundary layer" (emphasis added) renders the claim indefinite. The claim is indefinite because the extent of the boundary layer beyond the surface of the reeling drum is indeterminate without linking a measurement or an operational parameter (such as the rotational velocity of the drum or the speed of the threading tail) to the step of drawing air. The height of the boundary layer is anywhere between zero at zero speed and a finite value at a maximum drum/tail speed. Thus, the claim does not clearly set forth the metes and bounds of the patent protection desired.

Similar language is used for independent claims 18 and 27.

All other claims are accordingly rejected as being dependent on the above claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-18 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madrzak et al (US 5,915,648).

Madrzak discloses a drum for guiding a paper web having a jacket, a hollow interior, a plurality of passage openings in the jacket for passage of air therethrough, and a suction means for drawing air into the drum through the passage openings. Suction apertures extend from the drum interior to the surface and are provided around the drum circumference. The drum can be used as a carrier reel drum in a papermaking machine, and in particular for guiding a threading strip (tail) to a winding mandrel (reel spool) where a full-width finished paper web is wound. See column 5, line 64 to column 6, line 14. The carrier drum is pressed against the shaft of the winding mandrel. The paper web is guided over the carrier drum, through a nip between the carrier drum and the shaft, and then the web is wound up onto the shaft. The threading strip is guided onto the carrier drum. Negative pressure is applied from the interior of the drum to the outer surface, which holds the web strip on the jacket of the drum. Negative pressure is applied at the edge region of the roll. As a result, the strip does not move out over the edge of the roll or run toward the center of the roll. This enables reliable transfer of the threading strip even at high machine speeds. Suction is provided by means of an internal impeller (blower) or impellers which can be arranged to divide the roll interior into chambers. Suction can be applied to any

region of the roll, including the entire roll, thus the suction zone width encompasses all widths relative to the width of the threading tail. See column 5, lines 45-63.

Madrzak does not disclose providing a suction effect which extends beyond a boundary layer of air produced by the rotating reel drum and the threading tail. However, it is deemed obvious that the reeling drum of Madrzak is structured and operated in a manner to provide sufficient suction which extends beyond the boundary layer at any speed. Note that Madrzak discloses in column 3, line 65 to column 4, line 3 that the drum can be used at high machine speeds because a sufficiently high negative pressure can be provided.

Claims 19 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madrzak et al (US 5,915,648) in view of Aula et al (US 5,135,614).

The suction roll of Madrzak and its utilization as a reeling drum is described above. The roll has perforations for passing air through the roll surface. The roll does not have corresponding grooves wherein perforations are fitted in the bottoms of the grooves.

Aula discloses a suction roll for a paper making machine structured to produce increased suction at the lateral edge areas of the roll. Figures 2A-2D show a roll with circumferential grooves and perforations fitted in the bottoms of the grooves. See column 4, lines 9-45. Such a structure allows air to flow with less resistance from the outside of the roll to the interior of the roll while maintaining contact with a paper web, thereby providing the desired level of suction while controlling the running of the web. Suction is provided by means of a suction box. It would have been obvious to utilize the roll of Aula as an alternative reeling drum having grooves and perforations fitted in the bottoms of the grooves to obtain the aforementioned advantages.

Art Unit: 1731

The increased suction at the edge areas of the roll also make it suitable for tail threading. It is also deemed obvious that the reeling drum of Aula is provided with sufficient suction which extends beyond the boundary layer, because the drum structured in the same manner as the claimed drum.

Allowable Subject Matter

Claims 20 and 21 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 27-33 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 20 would be allowable for further reciting the spacing of the apertures in the circumferential and transverse direction.

Claim 21 would be allowable for further reciting the diameter of the apertures and their spacing in the circumferential direction.

Claims 27-33 would be allowable for reciting the diameter of the apertures and speed at which the air is drawn through the apertures.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamamoto et al (JP 6-341089) discloses threading the tail of a paper web from a calender into a nip of a reel drum 1 and a reel spool 2. The reel drum is constructed having a vacuum produced on the reel drum surface corresponding to the threading region.

Moller et al (US 6,325,320) discloses a winding machine for winding a material web onto a reel. The material web is guided by a carrying drum that can be supplied with suction. The carrying drum has a perforated casing and/or is provided with circumferential grooves.

Kinnunen et al (US 5,531,396) discloses reeling a leading strip of a web onto a reel spool by means of a reeling cylinder. The reeling cylinder may be of types known such as grooved or perforated. Suction rolls may also be utilized.

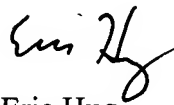
Autio et al (WO 00/71453) discloses a method for threading a tail of a paper web by passing over a reeling cylinder 1 to a reel spool 2. A suction zone 7 is provided through the shell of the reeling cylinder.

Art Unit: 1731

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 571 272-1192.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Eric Hug
Primary Examiner